

CLAIMS

WHAT IS CLAIMED IS:

1. An apparatus for use in a well having a main bore and a lateral branch, the lateral branch comprising an electrical device, the apparatus comprising:

5 an inductive coupler mechanism to electrically communicate electrical signaling in the main bore with the electrical device in the lateral branch.

2. Apparatus to communicate electrical signaling from a main bore of a well to equipment in a lateral branch, comprising:

10 a connector mechanism adapted to connect equipment in the main bore to equipment in the lateral branch equipment;

and

a first inductive coupler portion attached to the connector mechanism to communicate electrical signaling with the lateral branch equipment.

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3. The apparatus of claim 2, further comprising an electrical cable connected to the inductive coupler portion.

4. The apparatus of claim 3, further comprising a second inductive coupler portion connected to the electrical cable and attached to the connector mechanism, the second inductive coupler portion adapted to communicate signaling with the main bore equipment.

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5. The apparatus of claim 4, further comprising a third inductive coupler portion that is part of the main bore equipment to inductively couple to the second inductive coupler portion.

10 6. The apparatus of claim 5, further comprising a fourth inductive coupler portion that is part of the lateral branch equipment to inductively couple to the first inductive coupler portion.

7. The apparatus of claim 2, wherein the connector mechanism is further adapted to
15 connect equipment in the main bore to equipment in a second lateral branch, the apparatus further comprising a second inductive coupler portion attached to the connector mechanism to communicate electrical signaling with the second lateral branch equipment.

8. A completion string for use in a well having a main bore and a lateral branch, comprising:

equipment in the main bore and in the lateral branch;

- a first inductive coupler assembly proximal the equipment in the main bore;
- 5 a second inductive coupler assembly proximal the equipment in the lateral branch;

and

an electrical cable connecting the first and second inductive coupler assemblies.

9. The completion string of claim 8, further comprising equipment in a second

- 10 lateral branch, the completion string further comprising a third inductive coupler assembly proximal the equipment in the lateral branch.

10. The completion string of claim 9, further comprising a fourth inductive coupler

- assembly proximal the main bore equipment and a second electrical cable connecting the
15 third and fourth inductive coupler assemblies.

11. The completion string of claim 8, wherein the equipment in the main bore includes a tubing, the completion string further comprising a connector member between the tubing and the lateral branch equipment.

12. The completion string of claim 11, wherein the lateral branch equipment comprises an electrical device.
13. The completion string of claim 12, wherein the electrical device comprises a monitoring module.
14. The completion string of claim 12, wherein the electrical device comprises a control module.
- 10 15. The completion string of claim 11, further comprising a casing having a window open to the lateral branch, wherein the connector member extends through the casing window.
16. The completion string of claim 11 wherein the first inductive coupler assembly comprises one portion attached to the tubing and another portion attached to the connector member.

17. The completion string of claim 16, wherein the second inductive coupler assembly comprises one portion attached to the connector member and another portion attached to the lateral branch equipment.
- 5 18. The completion string of claim 8, further comprising a hydraulic control line adapted to extend from the main bore to the lateral branch.
19. The completion string of claim 18, further comprising a lateral branch connector adapted to connect the main bore equipment to lateral branch equipment, the lateral
10 branch connector comprising a conduit to carry the cable and a conduit to carry the hydraulic control line.
20. A method of communicating between main bore equipment and lateral branch equipment in a well, comprising:
- 15 providing a first inductive coupler assembly electrically connected to the main bore equipment and in communication with the lateral branch equipment; and transmitting electrical signaling over an electrical cable connected to the first inductive coupler assembly.

21. The method of claim 20, further comprising:

providing a second inductive coupler assembly electrically connected to the lateral branch equipment; and

electrically connecting the second inductive coupler assembly to the first
5 inductive coupler assembly.